

Generally the Tuatara lives on the right side and the Petrel on the left. Mr. Reischek says he sometimes found two Petrels inhabiting their side of the chamber but never two Tuataras together.

He is certain that the Tuataras in most cases excavate the holes as he watched them doing it, and moreover found them in holes only half finished without any birds with them. But there is no doubt that in some instances the Tuataras also inhabit holes dug out by the Petrels. Mr. Reischek likewise gives us some interesting facts about the Tuataras' habits.

During the daytime these lizards are seldom met with outside their holes, and never far from the entrances. But as soon as the sun has set, the Tuatara leaves its hole to seek its food, which consists of worms, beetles, etc. It also feeds on the remnants of fishes and crustaceans brought by the Petrel into the chamber. During the night, a peculiar croaking sound is heard emanating from

these lizards, not unlike the grunting of a pig when it is tormented. This is the best time to catch the Tuataras. Mr. Reischek believes that the female *Sphenodon* lays its eggs in February, as in January he found in one of them eight fully developed eggs, and about the same time obtained a young one only eight inches long including the tail.

So little has been hitherto recorded concerning the habits of the Tuatara in a state of Nature that these facts ascertained by Mr. Reischek and communicated by Professor von Haast to the New Zealand Institute must be allowed to be of great interest. Although the Tuatara has not unfrequently been brought alive to this country, and there are at the present time two examples of it living in the Zoological Society's Collection, this reptile is already quite extinct upon the main-land of New Zealand and exists only in some of the more remote islets which border its northern shores.

THE COMET

I SEND a few sketches and a brief account of the comet Cruls. I found the comet at 11h. a.m. September 22, by sweeping the sky near the sun with the 10-inch refractor of the Observatory of Palermo. It was not an easy object to find; it seems but a point with a

surrounding nebulosity, and a trace of tail directed to the south-west.

On the following morning the comet had the form (observed by Prof. Zona and myself) of Fig. 1, and preserved it until September 27; the tail was very splendid, inclined 50° to the horizon (that is to say, nearly parallel to the equator), a little convex to the south; the visible

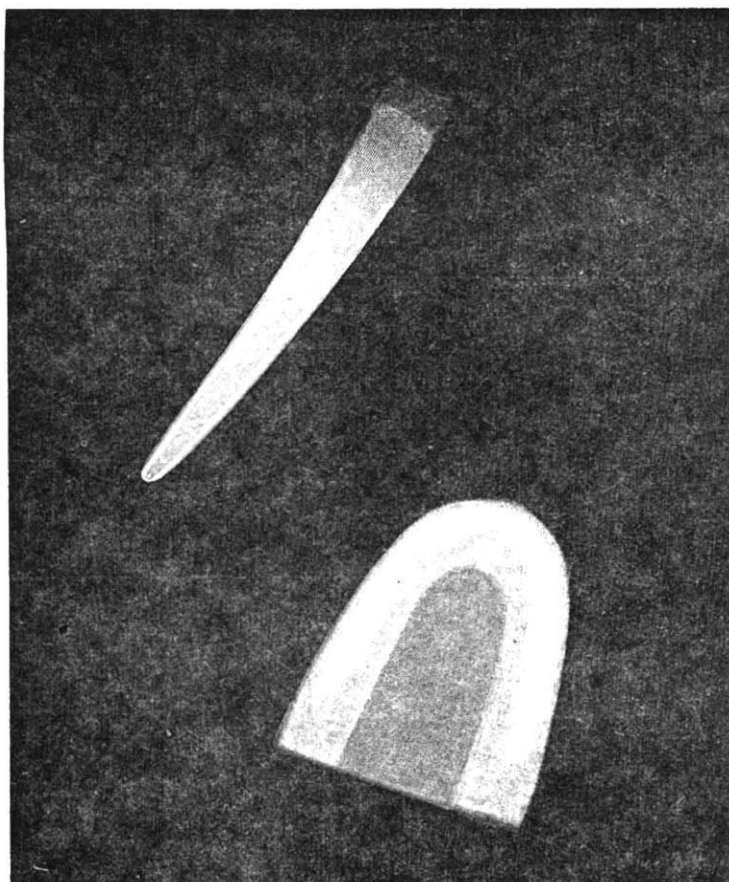


FIG. 1.

length in the glare of dawn and moon was 6° , and then 10° ; the breadth at the top was $40'$, and then $1^\circ 18'$. The nucleus was round and very brilliant, with a yellowish light.

The spectrum was formed of the linear continuous

spectrum of the nucleus, traversed by a large and strong line, that of sodium (D); by enlarging the slit of the spectroscop, I saw a globular, monochromatic image of the nucleus and coma. Besides the line of sodium, many others were present, but my spectroscop not having a

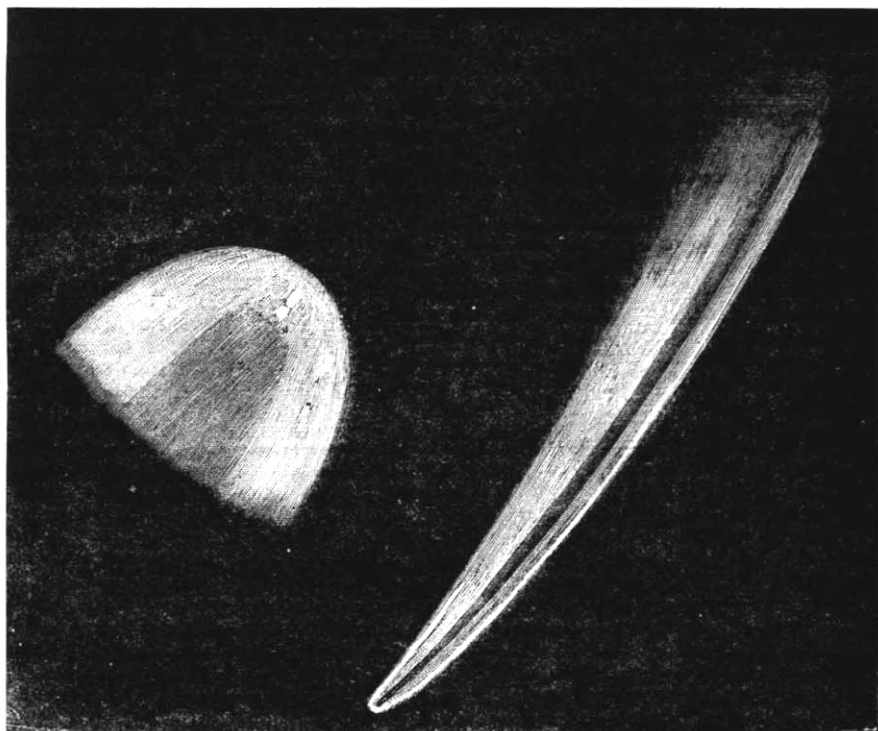


FIG. 2.

micrometer, I did not determine them; I observed a band in the red, a line in the yellow near and after D, two others in the green, and an enlargement of the continuous spectrum of the nucleus in green and blue.

From the form of Fig. 1, the comet passed to that of Fig. 2 till October 1. The tail was more curved and diverging, inclined to the horizon a little more than 45° ;

the length was near 15° , the breadth at the top $1^\circ 48'$; the south edge was very much stronger and brighter than the north edge; an obscure streak seems to divide the comet through the whole length. The nucleus was less luminous; it appeared double, and lengthened to $25''$, having a very brilliant jet directed to the sun.

The comet was not now as yellow as before, and corre-

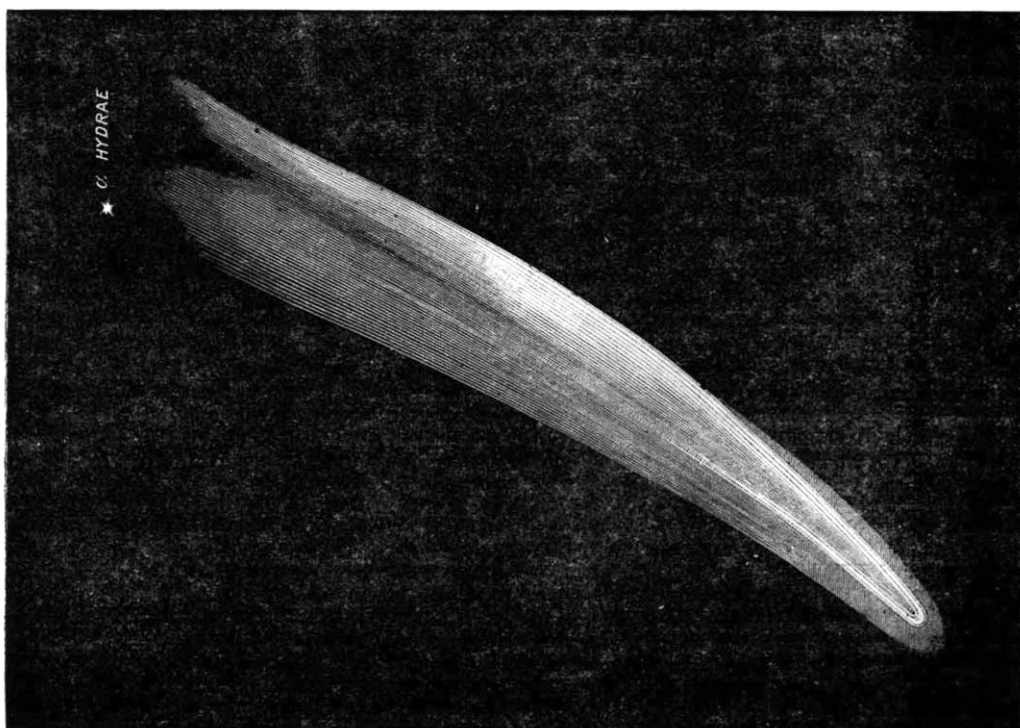


FIG. 3.

spondingly in the spectrum the sodium line was very reduced and little luminous; but the usual three bands of the hydrocarbons—yellow, green, and blue—were very conspicuous.

From October 1 to the present time the comet approached the form of Fig. 3, which I observed this morning; around the nucleus and very excentrically to the north, it is a faint envelope; at the top of the south edge a sort of horn issued; the north extremity is 1° distant from α Hydræ. The length of the tail is 17° , the breadth $2^{\circ} 48'$.

The nucleus is much diminished and little luminous, and the colour of the comet almost white.

Besides the linear spectrum of the nucleus, the three bands of hydrocarbons extend $5'$ round the nucleus.

The spectrum of the tail is continuous, and visible to the end.

It is remarkable that the changes of the spectrum (according to Dr. Hasselber's experiments) enabled me to predict that the comet had passed the perihelion before the orbit was calculated.

The beautiful sky of Palermo permitted me to observe the comet Cru's every day except October 5.

Observatory, Palermo, October 11 A. RICCO

NOTES

WE regret that Sir E. J. Reed is confined to bed with severe gout, but are glad to learn, from inquiry last night, that his illness is not dangerous.

THE family of the late Prof. Balfour have presented his scientific library to the University of Cambridge, for the use of the morphological laboratory. It consists of rather more than 500 volumes, and 1100 pamphlets bound in 77 volumes. These include many most important original papers on morphology and embryology, which had been very carefully collected, and arranged according to subjects.

PROF. TACCHINI has recently visited London. We understand that he has been entrusted by the Italian Government with the arrangements for the Italian members of the expedition which will visit the Marquesas to observe the solar eclipse of May 6, 1883. Prof. Trépied, the director of the Observatory of Algiers, who also proposes to observe the eclipse, is now in this country.

WE understand that a new Lecture and Model Room has been appropriated in the Science School at South Kensington to the Metallurgical Department. But notwithstanding the great increase of the accommodation as compared with that formerly provided in Jermyn Street, the class is overflowing, several students having been unable to obtain admission.

ADMIRAL MOUCHEZ has decided to send MM. Henry, the well known astronomers, to the Pic-du-Midi Observatory, in order to report upon the practicability of establishing at this station (altitude 3200 metres) a permanent astronomical observatory. The investigation will extend over six weeks, and the two astronomers may possibly be detained by snow for a longer period.

THE installation of the set of magnetic instruments invented by M. Mascart has been completed, at Parc St. Maur Observatory, twelve miles from Paris. M. Theophile Moreau, one of the physicists of the Bureau Central, has been appointed to superintend the self-registering observations.

THE Conference on Electrical Measurement began its sittings on Monday at the French Foreign Office, under the provisional chairmanship of M. Duclerc, the Prime Minister, who delivered an address of welcome to the delegates and retired, when M. Cochery

was nominated President of the Commission. The delegates for arranging for the security of cables afterwards opened their sittings; the two Commissions will meet on alternate days. It is believed the Commission for Electrical Measurements will appoint a sectional committee to conduct the scientific investigation, and that the work of the Cables Committee will be of short duration. A letter was read from Sir William Thomson, excusing the delay in his arrival. He will be in Paris to-day, ready to act in either Congress.

A LETTER received from Mr. Henry O. Forbes, dated July 12 last, announces that he was expecting to be landed next day at Larat, the mainland of Timorlaut on the east side. From all accounts Mr. Forbes was inclined to believe that the natives would be well disposed, and that he would have no difficulty in making collections in this *terra incognita*, towards the exploration of which $50l.$ was granted by the British Association at the Southampton meeting.

IN the neighbourhood of the Thuringian town of Kösen there are some disused saltworks with considerable water power. The latter is now to be utilised for the electric lighting of the town, and Kösen will thus be the first German town to introduce the electric light for illuminating the whole town.

THE foundation stone for a monument in memory of Columbus was laid at Barcelona on September 26.

LAST year an Anthropological Society was founded in Lyons, and the first number of its *Bulletin* lies before us. The Society works on much the same lines as the similar society of Paris. The *Bulletin* contains several good papers. Dr. Arloing writes on the influence of education in the development of the cranium of the dog; Dr. Lacassagne, on the progress of criminality in France, and also on the history of sepulture among different peoples; M. Paulet on sepulture among ancient and modern peoples; and M. Lacassagne on tattooing. The Paris publisher of the *Bulletin* is G. Masson.

A SHOCK of earthquake was felt at Panama at midnight, October 12-13. A rather smart shock preceded by thunder occurred on Thursday last on the south side of the Lake of Geneva, between Thonon and Douvaine, and a slighter yet very perceptible shock was felt at Geneva on Friday night. A very distinct shock of earthquake is reported to have been felt at the village of Comrie, Perthshire, on Saturday morning, about three o'clock, and was followed by another and more severe shock about half-past seven. The disturbance was accompanied by a sound resembling the distant booming of a cannon, and appeared to pass from the south-west to the north-east.

THE 6th part of Prof. Dodel Port's "Atlas der anatomischen und physiologischen Botanik" has recently appeared, and the work is thus approaching completion. The new part contains the usual six large coloured plates. They illustrate *Phaseolus coccineus*, L.; *Elodea canadensis*, Gaspary; *Erythrotis Baddomei*, Hooker f.; *Cuscuta glomerata*, Choisy; *Peziza*; and *Endocarpon pusillum*. Parts 6 and 7 of the same author's "Illustrirtes Pflanzenleben" has also just appeared. This work will be completed with Part 10.

HARTLEBEN'S "Chemisch-technische Bibliothek," of which some 100 volumes have now appeared, is no doubt known to many of our readers. This enterprising firm has now entered upon a similar undertaking, viz. an "Elektro-technische Bibliothek," of which the first volume, entitled "Die magnetelektrischen und dynamoelektrischen Maschinen," by Gustav Glaser-de Cew, has just appeared. The "Electro-technische Bibliothek" will, for the present, be completed in ten volumes. The following will be their contents:—Vol. II. The transfer of electric force; Vol. III. Lighting and heating by electricity; Vol. IV. Galvanic batteries; Vol. V. Telegraphy; Vol. VI. The tele